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SEQUENCE LISTING

<110> Arnaout, M. Armin

<120> METHODS FOR IDENTIFYING INTEGRIN ANTAGONISTS

<130> 00786-267002

<140> US 09/592,617

<141> 2000-06-13

<150> US 08/380,167

<151> 1999-01-30

<150> US 08/216,081

<151> 1994-03-21

<150> US 07/637,830

<151> 1991-01-04

<150> US 07/539,842

<151> 1990-06-18

<150> US 07/212,573

<151> 1988-06-28

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 Phe Arg Arg Met Lys
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 Leu Gly Tyr Glu Asp Val Ile Pro Glu Ala Asp Arg
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Asp Ile Ala Phe Leu Ile Asp Gly Ser
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Tyr Glu Asp Val Ile Pro Glu Ala Asp Arg
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 115

Met Lys Asp Ser Cys Ile Thr
 1 5

gtg atg gcc atg gcg ctg ctg tct ggg ttc ttt ttc ttc gcg ccg gcc
 163

Val Met Ala Met Ala Leu Leu Ser Gly Phe Phe Phe Phe Ala Pro Ala
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 211

Ser Ser Tyr Asn Leu Asp Val Arg Gly Ala Arg Ser Phe Ser Pro Pro
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cgc gcc ggg agg cac ttt gga tac cgc gtc ctg cag gtc gga aac ggg
 259

Arg Ala Gly Arg His Phe Gly Tyr Arg Val Leu Gln Val Gly Asn Gly
 40 45 50 55

gtc atc gtg gga gct cca ggg gag ggg aac agc aca gga agc ctc tat
 307

Val Ile Val Gly Ala Pro Gly Glu Gly Asn Ser Thr Gly Ser Leu Tyr
 60 65 70

cag tgc cag tcg ggc aca gga cac tgc ctg cca gtc acc ctg aga ggt
 355

Gln Cys Gln Ser Gly Thr Gly His Cys Leu Pro Val Thr Leu Arg Gly
 75 80 85

tcc aac tat acc tcc aag tac ttg ggc atg acc ttg gca aca gac ccc
403

Ser Asn Tyr Thr Ser Lys Tyr Leu Gly Met Thr Leu Ala Thr Asp Pro
90 95 100

aca gat gga agc att ttg gcc tgt gac cct ggg ctg tct cga acg tgt
451

Thr Asp Gly Ser Ile Leu Ala Cys Asp Pro Gly Leu Ser Arg Thr Cys
105 110 115

gac cag aac acc tat ctg agt ggc ctg tgt tac ctc ttc cgc cag aat
499

Asp Gln Asn Thr Tyr Leu Ser Gly Leu Cys Tyr Leu Phe Arg Gln Asn
120 125 130 135

ctg cag ggt ccc atg ctg cag ggg cgc cct ggt ttt cag gaa tgt atc
547

Leu Gln Gly Pro Met Leu Gln Gly Arg Pro Gly Phe Gln Glu Cys Ile
140 145 150

aag ggc aac gta gac ctg gta ttt ctg ttt gat ggt tcg atg agc ttg
595

Lys Gly Asn Val Asp Leu Val Phe Leu Phe Asp Gly Ser Met Ser Leu
155 160 165

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643

Gln Pro Asp Glu Phe Gln Lys Ile Leu Asp Phe Met Lys Asp Val Met
170 175 180

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691

Lys Lys Leu Ser Asn Thr Ser Tyr Gln Phe Ala Ala Val Gln Phe Ser
185 190 195

aca agc tac aaa aca gaa ttt gat ttc tca gat tat gtt aaa tgg aag
739

Thr Ser Tyr Lys Thr Glu Phe Asp Phe Ser Asp Tyr Val Lys Trp Lys
200 205 210 215

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787

Asp Pro Asp Ala Leu Leu Lys His Val Lys His Met Leu Leu Leu Thr
220 225 230

aat acc ttt ggt gcc atc aat tat gtc gcg aca gag gtg ttc cgg gag
835

Asn Thr Phe Gly Ala Ile Asn Tyr Val Ala Thr Glu Val Phe Arg Glu
235 240 245

gag ctg ggg gcc cgg cca gat gcc acc aaa gtg ctt atc atc atc acg
883

Glu Leu Gly Ala Arg Pro Asp Ala Thr Lys Val Leu Ile Ile Ile Thr
250 255 260

gat ggg gag gcc act gac agt ggc aac atc gat gcg gcc aaa gac atc
931

Asp Gly Glu Ala Thr Asp Ser Gly Asn Ile Asp Ala Ala Lys Asp Ile
265 270 275

atc cgc tac atc atc ggg att gga aag cat ttt cag acc aag gag agt
979

Ile Arg Tyr Ile Ile Gly Ile Gly Lys His Phe Gln Thr Lys Glu Ser
280 285 290 295

cag gag acc ctc cac aaa ttt gca tca aaa ccc gcg agc gag ttt gtg
1027

Gln Glu Thr Leu His Lys Phe Ala Ser Lys Pro Ala Ser Glu Phe Val
300 305 310

aaa att ctg gac aca ttt gag aag ctg aaa gat cta ttc act gag ctg
1075

Lys Ile Leu Asp Thr Phe Glu Lys Leu Lys Asp Leu Phe Thr Glu Leu
315 320 325

cag aag aag atc tat gtc att gag ggc aca agc aaa cag gac ctg act
1123

Gln Lys Lys Ile Tyr Val Ile Glu Gly Thr Ser Lys Gln Asp Leu Thr
330 335 340

tcc ttc aac atg gag ctg tcc tcc agc ggc atc agt gct gac ctc agc
1171

Ser Phe Asn Met Glu Leu Ser Ser Ser Gly Ile Ser Ala Asp Leu Ser
345 350 355

agg ggc cat gca gtc gtg ggg gca gta gga gcc aag gac tgg gct ggg
1219

Arg Gly His Ala Val Val Gly Ala Val Gly Ala Lys Asp Trp Ala Gly
360 365 370 375

ggc ttt ctt gac ctg aag gca gac ctg cag gat gac aca ttt att ggg
1267

Gly Phe Leu Asp Leu Lys Ala Asp Leu Gln Asp Asp Thr Phe Ile Gly
380 385 390

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1315

Asn Glu Pro Leu Thr Pro Glu Val Arg Ala Gly Tyr Leu Gly Tyr Thr
395 400 405

gtg acc tgg ctg ccc tcc cgg caa aag act tcg ttg ctg gcc tcg gga
1363

Val Thr Trp Leu Pro Ser Arg Gln Lys Thr Ser Leu Leu Ala Ser Gly
410 415 420

gcc cct cga tac cag cac atg ggc cga gtg ctg ctg ttc caa gag cca
1411

Ala Pro Arg Tyr Gln His Met Gly Arg Val Leu Leu Phe Gln Glu Pro
425 430 435

cag ggc gga gga cac tgg agc cag gtc cag aca atc cat ggg acc cag
1459

Gln Gly Gly Gly His Trp Ser Gln Val Gln Thr Ile His Gly Thr Gln
440 445 450 455

att ggc tct tat ttc ggt ggg gag ctg tgt ggc gtc gac gtg gac caa
1507

Ile Gly Ser Tyr Phe Gly Gly Glu Leu Cys Gly Val Asp Val Asp Gln
460 465 470

gat ggg gag aca gag ctg ctg ctg att ggt gcc cca ctg ttc tat ggg
1555

Asp Gly Glu Thr Glu Leu Leu Leu Ile Gly Ala Pro Leu Phe Tyr Gly
475 480 485

gag cag aga gga ggc cgg gtg ttt atc tac cag aga aga cag ttg ggg
1603

Glu Gln Arg Gly Gly Arg Val Phe Ile Tyr Gln Arg Arg Gln Leu Gly
490 495 500

ttt gaa gaa gtc tca gag ctg cag ggg gac ccc ggc tac cca ctc ggg
1651

Phe Glu Glu Val Ser Glu Leu Gln Gly Asp Pro Gly Tyr Pro Leu Gly
505 510 515

cgg ttt gga gaa gcc atc act gct ctg aca gac atc aac ggc gat ggg
1699

Arg Phe Gly Glu Ala Ile Thr Ala Leu Thr Asp Ile Asn Gly Asp Gly
520 525 530 535

ctg gta gac gtg gct gtg ggg gcc cct ctg gag gag cag ggg gct gtg
1747

Leu Val Asp Val Ala Val Gly Ala Pro Leu Glu Glu Gln Gly Ala Val
540 545 550

tac atc ttc aat ggg agg cac ggg ggg ctt agt ccc cag cca agt cag
1795

Tyr Ile Phe Asn Gly Arg His Gly Gly Leu Ser Pro Gln Pro Ser Gln
555 560 565

cgg ata gaa ggg acc caa gtg ctc tca gga att cag tgg ttt gga cgc
1843

Arg Ile Glu Gly Thr Gln Val Leu Ser Gly Ile Gln Trp Phe Gly Arg
570 575 580

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1891

Ser Ile His Gly Val Lys Asp Leu Glu Gly Asp Gly Leu Ala Asp Val
585 590 595

gct gtg ggg gct gag agc cag atg atc gtg ctg agc tcc cgg ccc gtg
1939

Ala Val Gly Ala Glu Ser Gln Met Ile Val Leu Ser Ser Arg Pro Val
600 605 610 615

gtg gat atg gtc acc ctg atg tcc ttc tct cca gct gag atc cca gtg
1987

Val Asp Met Val Thr Leu Met Ser Phe Ser Pro Ala Glu Ile Pro Val

620	625	630
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His Glu Val Glu Cys Ser Tyr Ser Thr Ser Asn Lys Met Lys Glu Gly 635 640 645		
gtt aat atc aca atc tgt ttc cag atc aag tct ctc tac ccc cag ttc 2083		
Val Asn Ile Thr Ile Cys Phe Gln Ile Lys Ser Leu Tyr Pro Gln Phe 650 655 660		
caa ggc cgc ctg gtt gcc aat ctc act tac act ctg cag ctg gat ggc 2131		
Gln Gly Arg Leu Val Ala Asn Leu Thr Tyr Thr Leu Gln Leu Asp Gly 665 670 675		
cac cgg acc aga aga cgg ggg ttg ttc cca gga ggg aga cat gaa ctc 2179		
His Arg Thr Arg Arg Arg Gly Leu Phe Pro Gly Gly Arg His Glu Leu 680 685 690 695		
aga agg aat ata gct gtc acc acc agc atg tca tgc act gac ttc tca 2227		
Arg Arg Asn Ile Ala Val Thr Thr Ser Met Ser Cys Thr Asp Phe Ser 700 705 710		
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Phe His Phe Pro Val Cys Val Gln Asp Leu Ile Ser Pro Ile Asn Val 715 720 725		
tcc ctg aat ttc tct ctt tgg gag gag gaa ggg aca ccg agg gac caa 2323		
Ser Leu Asn Phe Ser Leu Trp Glu Glu Glu Gly Thr Pro Arg Asp Gln 730 735 740		
agg gcg cag ggc aag gac ata ccg ccc atc ctg aga ccc tcc ctg cac 2371		
Arg Ala Gln Gly Lys Asp Ile Pro Pro Ile Leu Arg Pro Ser Leu His 745 750 755		
tcg gaa acc tgg gag atc cct ttt gag aag aac tgt ggg gag gac aag 2419		
Ser Glu Thr Trp Glu Ile Pro Phe Glu Lys Asn Cys Gly Glu Asp Lys 760 765 770 775		
aag tgt gag gca aac ttg aga gtg tcc ttc tct cct gca aga tcc aga 2467		
Lys Cys Glu Ala Asn Leu Arg Val Ser Phe Ser Pro Ala Arg Ser Arg 780 785 790		
gcc ctg cgt cta act gct ttt gcc agc ctc tct gtg gag ctg agc ctg 2515		
Ala Leu Arg Leu Thr Ala Phe Ala Ser Leu Ser Val Glu Leu Ser Leu 795 800 805		

agt aac ttg gaa gaa gat gct tac tgg gtc cag ctg gac ctg cac ttc
2563

Ser Asn Leu Glu Glu Asp Ala Tyr Trp Val Gln Leu Asp Leu His Phe
810 815 820

ccc ccg gga ctc tcc ttc cgc aag gtg gag atg ctg aag ccc cat agc
2611

Pro Pro Gly Leu Ser Phe Arg Lys Val Glu Met Leu Lys Pro His Ser
825 830 835

cag ata cct gtg agc tgc gag gag ctt cct gaa gag tcc agg ctt ctg
2659

Gln Ile Pro Val Ser Cys Glu Glu Leu Pro Glu Glu Ser Arg Leu Leu
840 845 850 855

tcc agg gca tta tct tgc aat gtg agc tct ccc atc ttc aaa gca ggc
2707

Ser Arg Ala Leu Ser Cys Asn Val Ser Ser Pro Ile Phe Lys Ala Gly
860 865 870

cac tcg gtt gct ctg cag atg atg ttt aat aca ctg gta aac agc tcc
2755

His Ser Val Ala Leu Gln Met Met Phe Asn Thr Leu Val Asn Ser Ser
875 880 885

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2803

Trp Gly Asp Ser Val Glu Leu His Ala Asn Val Thr Cys Asn Asn Glu
890 895 900

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2851

Asp Ser Asp Leu Leu Glu Asp Asn Ser Ala Thr Thr Ile Ile Pro Ile
905 910 915

ctg tac ccc atc aac atc ctc atc cag gac caa gaa gac tcc aca ctc
2899

Leu Tyr Pro Ile Asn Ile Leu Ile Gln Asp Gln Glu Asp Ser Thr Leu
920 925 930 935

tat gtc agt ttc acc ccc aaa ggc ccc aag atc cac caa gtc aag cac
2947

Tyr Val Ser Phe Thr Pro Lys Gly Pro Lys Ile His Gln Val Lys His
940 945 950

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2995

Met Tyr Gln Val Arg Ile Gln Pro Ser Ile His Asp His Asn Ile Pro
955 960 965

acc ctg gag gct gtg gtt ggg gtg cca cag cct ccc agc gag ggg ccc
3043

Thr Leu Glu Ala Val Val Gly Val Pro Gln Pro Pro Ser Glu Gly Pro
970 975 980

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3091

Ile Thr His Gln Trp Ser Val Gln Met Glu Pro Pro Val Pro Cys His
 985 990 995

tat gag gat ctg gag agg ctc ccg gat gca gct gag cct tgt ctc ccc
 3139

Tyr Glu Asp Leu Glu Arg Leu Pro Asp Ala Ala Glu Pro Cys Leu Pro
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 3187

Gly Ala Leu Phe Arg Cys Pro Val Val Phe Arg Gln Glu Ile Leu Val
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 3235

Gln Val Ile Gly Thr Leu Glu Leu Val Gly Glu Ile Glu Ala Ser Ser
 1035 1040 1045

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 3283

Met Phe Ser Leu Cys Ser Ser Leu Ser Ile Ser Phe Asn Ser Ser Lys
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 3331

His Phe His Leu Tyr Gly Ser Asn Ala Ser Leu Ala Gln Val Val Met
 1065 1070 1075

aag gtt gac gtg gtg tat gag aag cag atg ctc tac ctc tac gtg ctg
 3379

Lys Val Asp Val Val Tyr Glu Lys Gln Met Leu Tyr Leu Tyr Val Leu
 1080 1085 1090 1095

agc ggc atc ggg ggg ctg ctg ctg ctg ctg ctc att ttc ata gtg ctg
 3427

Ser Gly Ile Gly Gly Leu Leu Leu Leu Leu Leu Ile Phe Ile Val Leu
 1100 1105 1110

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 3475

Tyr Lys Val Gly Phe Phe Lys Arg Asn Leu Lys Glu Lys Met Glu Ala
 1115 1120 1125

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 3523

Gly Arg Gly Val Pro Asn Gly Ile Pro Ala Glu Asp Ser Glu Gln Leu
 1130 1135 1140

gca tct ggg caa gag gct ggg gat ccc ggc tgc ctg aag ccc ctc cat
 3571

Ala Ser Gly Gln Glu Ala Gly Asp Pro Gly Cys Leu Lys Pro Leu His
 1145 1150 1155

gag aag gac tct gag agt ggt ggt ggc aag gac tgagtccagc ctgtgaggtg
 3624

Glu Lys Asp Ser Glu Ser Gly Gly Gly Lys Asp

1160

1165

1170

cagagtgtccc agaactggac tcaggatgcc cagggccact tcgcctctgc ctgcattctg
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110

Met Ala Leu Arg Val Leu Leu Leu Thr Ala Leu Thr
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158

Leu Cys His Gly Phe Asn Leu Asp Thr Glu Asn Ala Met Thr Phe Gln
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206

Glu Asn Ala Arg Gly Phe Gly Gln Ser Val Val Gln Leu Gln Gly Ser
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Arg Val Val Val Gly Ala Pro Gln Glu Ile Val Ala Ala Asn Gln Arg
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302

Gly Ser Leu Tyr Gln Cys Asp Tyr Ser Thr Gly Ser Cys Glu Pro Ile
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350

Arg Leu Gln Val Pro Val Glu Ala Val Asn Met Ser Leu Gly Leu Ser
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398

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446

Val His Gln Thr Cys Ser Glu Asn Thr Tyr Val Lys Gly Leu Cys Phe
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494

Leu Phe Gly Ser Asn Leu Arg Gln Gln Pro Gln Lys Phe Pro Glu Ala
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1118

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335 340 345

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1166

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1262

Tyr Thr Ser Lys Glu Lys Ser Thr Phe Ile Asn Met Thr Arg Val Asp
385 390 395

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1310

Ser Asp Met Asn Asp Ala Tyr Leu Gly Tyr Ala Ala Ala Ile Ile Leu
400 405 410

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1358

Arg Asn Arg Val Gln Ser Leu Val Leu Gly Ala Pro Arg Tyr Gln His
415 420 425

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1406

Ile Gly Leu Val Ala Met Phe Arg Gln Asn Thr Gly Met Trp Glu Ser
430 435 440

aac gct aat gtc aag ggc acc cag atc ggc gcc tac ttc ggg gcc tcc
1454

Asn Ala Asn Val Lys Gly Thr Gln Ile Gly Ala Tyr Phe Gly Ala Ser
445 450 455 460

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1502

Leu Cys Ser Val Asp Val Asp Ser Asn Gly Ser Thr Asp Leu Val Leu
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1550

Ile Gly Ala Pro His Tyr Tyr Glu Gln Thr Arg Gly Gly Gln Val Ser
480 485 490

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1598

Val Cys Pro Leu Pro Arg Gly Arg Ala Arg Trp Gln Cys Asp Ala Val
495 500 505

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1646

Leu Tyr Gly Glu Gln Gly Gln Pro Trp Gly Arg Phe Gly Ala Ala Leu
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1694

Thr Val Leu Gly Asp Val Asn Gly Asp Lys Leu Thr Asp Val Ala Ile
525 530 535 540

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1742

Gly Ala Pro Gly Glu Glu Asp Asn Arg Gly Ala Val Tyr Leu Phe His
545 550 555

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1790

Gly Thr Ser Gly Ser Gly Ile Ser Pro Ser His Ser Gln Arg Ile Ala
560 565 570

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1838

Gly Ser Lys Leu Ser Pro Arg Leu Gln Tyr Phe Gly Gln Ser Leu Ser
575 580 585

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1886

Gly Gly Gln Asp Leu Thr Met Asp Gly Leu Val Asp Leu Thr Val Gly
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1934

Ala Gln Gly His Val Leu Leu Leu Arg Ser Gln Pro Val Leu Arg Val
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1982

Lys Ala Ile Met Glu Phe Asn Pro Arg Glu Val Ala Arg Asn Val Phe
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2030

Glu Cys Asn Asp Gln Val Val Lys Gly Lys Glu Ala Gly Glu Val Arg
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2078

Val Cys Leu His Val Gln Lys Ser Thr Arg Asp Arg Leu Arg Glu Gly
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2126

Gln Ile Gln Ser Val Val Thr Tyr Asp Leu Ala Leu Asp Ser Gly Arg
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2174

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 845 850 855 860
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2798

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895 900 905

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2894

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2942

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3086

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Pro Ser His Ser Asp Phe Leu Ala Glu Leu Arg Lys Ala Pro Val Val
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Thr Ala Glu Ile Leu Phe Asn Asp Ser Val Phe Thr Leu Leu Pro Gly
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 Leu Pro Val Thr Leu Arg Gly Ser Asn Tyr Thr Ser Lys Tyr Leu Gly
 85 90 95
 Met Thr Leu Ala Thr Asp Pro Thr Asp Gly Ser Ile Leu Ala Cys Asp
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 Pro Gly Leu Ser Arg Thr Cys Asp Gln Asn Thr Tyr Leu Ser Gly Leu
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 Cys Tyr Leu Phe Arg Gln Asn Leu Gln Gly Pro Met Leu Gln Gly Arg
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 Pro Gly Phe Gln Glu Cys Ile Lys Gly Asn Val Asp Leu Val Phe Leu
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 Ser Asp Tyr Val Lys Trp Lys Asp Pro Asp Ala Leu Leu Lys His Val
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 Lys His Met Leu Leu Leu Thr Asn Thr Phe Gly Ala Ile Asn Tyr Val
 225 230 235 240
 Ala Thr Glu Val Phe Arg Glu Glu Leu Gly Ala Arg Pro Asp Ala Thr
 245 250 255
 Lys Val Leu Ile Ile Ile Thr Asp Gly Glu Ala Thr Asp Ser Gly Asn
 260 265 270
 Ile Asp Ala Lys Asp Ile Ile Arg Tyr Ile Ile Gly Ile Gly Lys
 275 280 285
 His Phe Gln Thr Lys Glu Ser Gln Glu Thr Leu His Lys Phe Ala Ser
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 Lys Pro Ala Ser Glu Phe Val Lys Ile Leu Asp Thr Phe Glu Lys Leu
 305 310 315 320
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 325 330 335
 Thr Ser Lys Gln Asp Leu Thr Ser Phe Asn Met Glu Leu Ser Ser Ser
 340 345 350

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 Gly Ala Lys Asp Trp Ala Gly Gly Phe Leu Asp Leu Lys Ala Asp Leu
 370 375 380
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 Ala Gly Tyr Leu Gly Tyr Thr Val Thr Trp Leu Pro Ser Arg Gln Lys
 405 410 415
 Thr Ser Leu Leu Ala Ser Gly Ala Pro Arg Tyr Gln His Met Gly Arg
 420 425 430
 Val Leu Leu Phe Gln Glu Pro Gln Gly Gly Gly His Trp Ser Gln Val
 435 440 445
 Gln Thr Ile His Gly Thr Gln Ile Gly Ser Tyr Phe Gly Gly Glu Leu
 450 455 460
 Cys Gly Val Asp Val Asp Gln Asp Gly Glu Thr Glu Leu Leu Leu Ile
 465 470 475 480
 Gly Ala Pro Leu Phe Tyr Gly Glu Gln Arg Gly Gly Arg Val Phe Ile
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 545 550 555 560
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 565 570 575
 Gly Ile Gln Trp Phe Gly Arg Ser Ile His Gly Val Lys Asp Leu Glu
 580 585 590
 Gly Asp Gly Leu Ala Asp Val Ala Val Gly Ala Glu Ser Gln Met Ile
 595 600 605
 Val Leu Ser Ser Arg Pro Val Val Asp Met Val Thr Leu Met Ser Phe
 610 615 620
 Ser Pro Ala Glu Ile Pro Val His Glu Val Glu Cys Ser Tyr Ser Thr
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 Lys Ser Leu Tyr Pro Gln Phe Gln Gly Arg Leu Val Ala Asn Leu Thr
 660 665 670
 Tyr Thr Leu Gln Leu Asp Gly His Arg Thr Arg Arg Arg Gly Leu Phe
 675 680 685
 Pro Gly Gly Arg His Glu Leu Arg Arg Asn Ile Ala Val Thr Thr Ser
 690 695 700
 Met Ser Cys Thr Asp Phe Ser Phe His Phe Pro Val Cys Val Gln Asp
 705 710 715 720
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 Glu Gly Thr Pro Arg Asp Gln Arg Ala Gln Gly Lys Asp Ile Pro Pro
 740 745 750
 Ile Leu Arg Pro Ser Leu His Ser Glu Thr Trp Glu Ile Pro Phe Glu
 755 760 765
 Lys Asn Cys Gly Glu Asp Lys Lys Cys Glu Ala Asn Leu Arg Val Ser
 770 775 780
 Phe Ser Pro Ala Arg Ser Arg Ala Leu Arg Leu Thr Ala Phe Ala Ser
 785 790 795 800
 Leu Ser Val Glu Leu Ser Leu Ser Asn Leu Glu Glu Asp Ala Tyr Trp

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Glu	Met	Leu	Lys	Pro	His	Ser	Gln	Ile	Pro	Val	Ser	Cys	Glu	Glu	Leu
			835						825					830	
Pro	Glu	Glu	Ser	Arg	Leu	Leu	Ser	Arg	Ala	Leu	Ser	Cys	Asn	Val	Ser
			850						840					845	
Ser	Pro	Ile	Phe	Lys	Ala	Gly	His	Ser	Val	Ala	Leu	Gln	Met	Met	Phe
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Asn	Thr	Leu	Val	Asn	Ser	Ser	Trp	Gly	Asp	Ser	Val	Glu	Leu	His	Ala
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Asn	Val	Thr	Cys	Asn	Asn	Glu	Asp	Ser	Asp	Leu	Leu	Glu	Asp	Asn	Ser
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Ala	Thr	Thr	Ile	Ile	Pro	Ile	Leu	Tyr	Pro	Ile	Asn	Ile	Leu	Ile	Gln
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Asp	Gln	Glu	Asp	Ser	Thr	Leu	Tyr	Val	Ser	Phe	Thr	Pro	Lys	Gly	Pro
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Lys	Ile	His	Gln	Val	Lys	His	Met	Tyr	Gln	Val	Arg	Ile	Gln	Pro	Ser
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Gln	Pro	Pro	Ser	Glu	Gly	Pro	Ile	Thr	His	Gln	Trp	Ser	Val	Gln	Met
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Glu	Pro	Pro	Val	Pro	Cys	His	Tyr	Glu	Asp	Leu	Glu	Arg	Leu	Pro	Asp
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Ala	Ala	Glu	Pro	Cys	Leu	Pro	Gly	Ala	Leu	Phe	Arg	Cys	Pro	Val	Val
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Phe	Arg	Gln	Glu	Ile	Leu	Val	Gln	Val	Ile	Gly	Thr	Leu	Glu	Leu	Val
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Gly	Glu	Ile	Glu	Ala	Ser	Ser	Met	Phe	Ser	Leu	Cys	Ser	Ser	Leu	Ser
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Ile	Ser	Phe	Asn	Ser	Ser	Lys	His	Phe	His	Leu	Tyr	Gly	Ser	Asn	Ala
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Ser	Leu	Ala	Gln	Val	Val	Met	Lys	Val	Asp	Val	Val	Tyr	Glu	Lys	Gln
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Met	Leu	Tyr	Leu	Tyr	Val	Leu	Ser	Gly	Ile	Gly	Gly	Leu	Leu	Leu	Leu
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Leu	Leu	Ile	Phe	Ile	Val	Leu	Tyr	Lys	Val	Gly	Phe	Phe	Lys	Arg	Asn
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Leu	Lys	Glu	Lys	Met	Glu	Ala	Gly	Arg	Gly	Val	Pro	Asn	Gly	Ile	Pro
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Ala	Glu	Asp	Ser	Glu	Gln	Leu	Ala	Ser	Gly	Gln	Glu	Ala	Gly	Asp	Pro
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Gly	Cys	Leu	Lys	Pro	Leu	His	Glu	Lys	Asp	Ser	Glu	Ser	Gly	Gly	Gly

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<210> 43
<211> 1152
<212> PRT
<213> Homo sapiens
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 Gly Ala Pro Gln Glu Ile Val Ala Ala Asn Gln Arg Gly Ser Leu Tyr
 35 40 45
 Gln Cys Asp Tyr Ser Thr Gly Ser Cys Glu Pro Ile Arg Leu Gln Val
 50 55 60
 Pro Val Glu Ala Val Asn Met Ser Leu Gly Leu Ser Leu Ala Ala Thr
 65 70 75 80
 Thr Ser Pro Pro Gln Leu Leu Ala Cys Gly Pro Thr Val His Gln Thr
 85 90 95
 Cys Ser Glu Asn Thr Tyr Val Lys Gly Leu Cys Phe Leu Phe Gly Ser
 100 105 110
 Asn Leu Arg Gln Gln Pro Gln Lys Phe Pro Glu Ala Leu Arg Gly Cys
 115 120 125
 Pro Gln Glu Asp Ser Asp Ile Ala Phe Leu Ile Asp Gly Ser Gly Ser
 130 135 140
 Ile Ile Pro His Asp Phe Arg Arg Met Lys Glu Phe Val Ser Thr Val
 145 150 155 160
 Met Glu Gln Leu Lys Lys Ser Lys Thr Leu Phe Ser Leu Met Gln Tyr
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 Ser Glu Glu Phe Arg Ile His Phe Thr Phe Lys Glu Phe Gln Asn Asn
 180 185 190
 Pro Asn Pro Arg Ser Leu Val Lys Pro Ile Thr Gln Leu Leu Gly Arg
 195 200 205
 Thr His Thr Ala Thr Gly Ile Arg Lys Val Val Arg Glu Leu Phe Asn
 210 215 220
 Ile Thr Asn Gly Ala Arg Lys Asn Ala Phe Lys Ile Leu Val Val Ile
 225 230 235 240
 Thr Asp Gly Glu Lys Phe Gly Asp Pro Leu Gly Tyr Glu Asp Val Ile
 245 250 255
 Pro Glu Ala Asp Arg Glu Gly Val Ile Arg Tyr Val Ile Gly Val Gly
 260 265 270
 Asp Ala Phe Arg Ser Glu Lys Ser Arg Gln Glu Leu Asn Thr Ile Ala
 275 280 285
 Ser Lys Pro Pro Arg Asp His Val Phe Gln Val Asn Asn Phe Glu Ala
 290 295 300
 Leu Lys Thr Ile Gln Asn Gln Leu Arg Glu Lys Ile Phe Ala Ile Glu
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 Gly Thr Gln Thr Gly Ser Ser Ser Ser Phe Glu His Glu Met Ser Gln
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 Glu Gly Phe Ser Ala Ala Ile Thr Ser Asn Gly Pro Leu Leu Ser Thr
 340 345 350
 Val Gly Ser Tyr Asp Trp Ala Gly Val Phe Leu Tyr Thr Ser Lys
 355 360 365
 Glu Lys Ser Thr Phe Ile Asn Met Thr Arg Val Asp Ser Asp Met Asn
 370 375 380
 Asp Ala Tyr Leu Gly Tyr Ala Ala Ala Ile Ile Leu Arg Asn Arg Val
 385 390 395 400
 Gln Ser Leu Val Leu Gly Ala Pro Arg Tyr Gln His Ile Gly Leu Val
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 Ala Met Phe Arg Gln Asn Thr Gly Met Trp Glu Ser Asn Ala Asn Val

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Asp	Val	Asp	Ser	Asn	Gly	Ser	Thr	Asp	Leu	Val	Leu	Ile	Gly	Ala	Pro
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His	Tyr	Tyr	Glu	Gln	Thr	Arg	Gly	Gly	Gln	Val	Ser	Val	Cys	Pro	Leu
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Pro	Arg	Gly	Arg	Ala	Arg	Trp	Gln	Cys	Asp	Ala	Val	Leu	Tyr	Gly	Glu
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Gln	Gly	Gln	Pro	Trp	Gly	Arg	Phe	Gly	Ala	Ala	Leu	Thr	Val	Leu	Gly
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Asp	Val	Asn	Gly	Asp	Lys	Leu	Thr	Asp	Val	Ala	Ile	Gly	Ala	Pro	Gly
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Glu	Glu	Asp	Asn	Arg	Gly	Ala	Val	Tyr	Leu	Phe	His	Gly	Thr	Ser	Gly
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Ser	Gly	Ile	Ser	Pro	Ser	His	Ser	Gln	Arg	Ile	Ala	Gly	Ser	Lys	Leu
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Ser	Pro	Arg	Leu	Gln	Tyr	Phe	Gly	Gln	Ser	Leu	Ser	Gly	Gly	Gln	Asp
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Leu	Thr	Met	Asp	Gly	Leu	Val	Asp	Leu	Thr	Val	Gly	Ala	Gln	Gly	His
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Val	Leu	Leu	Leu	Arg	Ser	Gln	Pro	Val	Leu	Arg	Val	Lys	Ala	Ile	Met
		595					600					605			
Glu	Phe	Asn	Pro	Arg	Glu	Val	Ala	Arg	Asn	Val	Phe	Glu	Cys	Asn	Asp
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Gln	Val	Val	Lys	Gly	Lys	Glu	Ala	Gly	Glu	Val	Arg	Val	Cys	Leu	His
625					630					635					640
Val	Gln	Lys	Ser	Thr	Arg	Asp	Arg	Leu	Arg	Glu	Gly	Gln	Ile	Gln	Ser
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Val	Val	Thr	Tyr	Asp	Leu	Ala	Leu	Asp	Ser	Gly	Arg	Pro	His	Ser	Arg
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Ala	Val	Phe	Asn	Glu	Thr	Lys	Asn	Ser	Thr	Arg	Arg	Gln	Thr	Gln	Val
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Leu	Gly	Leu	Thr	Gln	Thr	Cys	Glu	Thr	Leu	Lys	Leu	Gln	Leu	Pro	Asn
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Cys	Ile	Glu	Asp	Pro	Val	Ser	Pro	Ile	Val	Leu	Arg	Leu	Asn	Phe	Ser
705					710					715					720
Leu	Val	Gly	Thr	Pro	Leu	Ser	Ala	Phe	Gly	Asn	Leu	Arg	Pro	Val	Leu
				725					730					735	
Ala	Glu	Asp	Ala	Gln	Arg	Leu	Phe	Thr	Ala	Leu	Phe	Pro	Phe	Glu	Lys
			740					745					750		
Asn	Cys	Gly	Asn	Asp	Asn	Ile	Cys	Gln	Asp	Asp	Leu	Ser	Ile	Thr	Phe
		755				760					765				
Ser	Phe	Met	Ser	Leu	Asp	Cys	Leu	Val	Val	Gly	Gly				

Leu	Lys	Ala	Asn	Val	Thr	Ser	Glu	Asn	Met	Pro	Arg	Thr	Asn	Lys
				885									895	
Thr	Glu	Phe	Gln	Leu	Glu	Leu	Pro	Val	Lys	Tyr	Ala	Val	Tyr	Met
			900					905					910	Val
Val	Thr	Ser	His	Gly	Val	Ser	Thr	Lys	Tyr	Leu	Asn	Phe	Thr	Ala
		915					920					925		Ser
Glu	Asn	Thr	Ser	Arg	Val	Met	Gln	His	Gln	Tyr	Gln	Val	Ser	Asn
	930					935					940			Leu
Gly	Gln	Arg	Ser	Pro	Pro	Ile	Ser	Leu	Val	Phe	Leu	Val	Pro	Val
945					950					955				Arg
Leu	Asn	Gln	Thr	Val	Ile	Trp	Asp	Arg	Pro	Gln	Val	Thr	Phe	Ser
				965					970					Glu
Asn	Leu	Ser	Ser	Thr	Cys	His	Thr	Lys	Glu	Arg	Leu	Pro	Ser	His
			980					985					990	Ser
Asp	Phe	Leu	Ala	Glu	Leu	Arg	Lys	Ala	Pro	Val	Val	Asn	Cys	Ser
		995					1000					1005		Ile
Ala	Val	Cys	Gln	Arg	Ile	Gln	Cys	Asp	Ile	Pro	Phe	Phe	Gly	Ile
	1010					1015					1020			Gln
Glu	Glu	Phe	Asn	Ala	Thr	Leu	Lys	Gly	Asn	Leu	Ser	Phe	Asp	Trp
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Ile	Lys	Thr	Ser	His	Asn	His	Leu	Leu	Ile	Val	Ser	Thr	Ala	Glu
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Leu	Phe	Asn	Asp	Ser	Val	Phe	Thr	Leu	Leu	Pro	Gly	Gln	Gly	Ala
			1060					1065					1070	Phe
Val	Arg	Ser	Gln	Thr	Glu	Thr	Lys	Val	Glu	Pro	Phe	Glu	Val	Pro
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Pro	Leu	Pro	Leu	Ile	Val	Gly	Ser	Ser	Val	Gly	Gly	Leu	Leu	Leu
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1105					1110					1115				Gln
Tyr	Lys	Asp	Met	Met	Ser	Glu	Gly	Gly	Pro	Pro	Gly	Ala	Glu	Pro
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<210> 44
<211> 4704
<212> DNA
<213> Homo sapiens
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<210> 45

<211> 253

<212> PRT

<213> Homo sapiens

<400> 45

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Pro	Val	Asp	Leu	Tyr	Tyr	Leu	Val	Asp	Val	Ser	Ala	Ser	Met	His	Asn
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Asn	Ile	Glu	Lys	Leu	Asn	Ser	Val	Gly	Asn	Asp	Leu	Ser	Arg	Lys	Met
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Ala	Phe	Phe	Ser	Arg	Asp	Phe	Arg	Leu	Gly	Phe	Gly	Ser	Tyr	Val	Asp
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Lys	Thr	Val	Ser	Pro	Tyr	Ile	Ser	Ile	His	Pro	Glu	Arg	Ile	His	Asn
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Gln	Cys	Ser	Asp	Tyr	Asn	Leu	Asp	Cys	Met	Pro	Pro	His	Gly	Tyr	Ile
			85					90						95	
His	Val	Leu	Ser	Leu	Thr	Glu	Asn	Ile	Thr	Glu	Phe	Glu	Lys	Ala	Val
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His	Arg	Gln	Lys	Ile	Ser	Gly	Asn	Ile	Asp	Thr	Pro	Glu	Gly	Gly	Phe
	115					120						125			
Asp	Ala	Met	Leu	Gln	Ala	Ala	Val	Cys	Glu	Ser	His	Ile	Gly	Trp	Arg
	130				135						140				
Lys	Glu	Ala	Lys	Arg	Leu	Leu	Leu	Val	Met	Thr	Asp	Gln	Thr	Ser	His
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Leu	Ala	Leu	Asp	Ser	Lys	Leu	Ala	Gly	Ile	Val	Val	Pro	Asn	Asp	Gly
				165					170					175	

Asn	Cys	His	Leu	Lys	Asn	Asn	Val	Tyr	Val	Lys	Ser	Thr	Thr	Met	Glu
			180					185					190		
His	Pro	Ser	Leu	Gly	Gln	Leu	Ser	Glu	Lys	Leu	Ile	Asp	Asn	Asn	Ile
		195					200					205			
Asn	Val	Ile	Phe	Ala	Val	Gln	Gly	Lys	Gln	Phe	His	Trp	Tyr	Lys	Asp
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Leu	Leu	Pro	Leu	Leu	Pro	Gly	Thr	Ile	Ala	Gly	Glu	Ile	Glu	Ser	Lys
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Ala	Ala	Asn	Leu	Asn	Asn	Leu	Val	Val	Glu	Ala	Tyr	Gln			
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<210> 47
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 1 5

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 <213> Homo sapiens

<400> 48
 Asp Leu Thr Met Asp Gly Leu Val Asp
 1 5

<210> 49
 <211> 9
 <212> PRT
 <213> Homo sapiens

<400> 49
 Asp Ser Asp Met Asn Asp Ala Tyr Leu
 1 5

<210> 50
 <211> 33
 <212> PRT
 <213> Homo sapiens

<400> 50
 Asn Ala Phe Lys Ile Leu Val Val Ile Thr Asp Gly Glu Lys Phe Gly
 1 5 10 15
 Asp Pro Leu Gly Tyr Glu Asp Val Ile Pro Glu Ala Asp Arg Glu Gly
 20 25 30

Val

<210> 51
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 51
 Asp Gly Glu Lys Phe
 1 5

<210> 52
 <211> 253
 <212> PRT
 <213> Homo sapiens

<400> 52
 Gly Glu Pro Gln Gln Leu Gln Val Arg Phe Leu Arg Ala Glu Gly Tyr
 1 5 10 15
 Pro Val Asp Leu Tyr Tyr Leu Met Asp Leu Ser Ser Ser Met Lys Asp
 20 25 30
 Asp Leu Glu Arg Val Arg Gln Leu Gly His Ala Leu Leu Val Arg Leu
 35 40 45
 Gln Glu Val Thr His Ser Val Arg Ile Gly Phe Gly Ser Phe Val Asp
 50 55 60
 Lys Thr Val Leu Pro Phe Val Ser Thr Val Pro Ser Lys Leu Arg His
 65 70 75 80
 Pro Cys Pro Thr Arg Leu Glu Arg Cys Gln Ser Pro Phe Ser Phe His
 85 90 95
 His Val Leu Ser Leu Thr Gly Asp Ala Gln Ala Phe Glu Arg Glu Val
 100 105 110
 Gly Arg Gln Ser Val Ser Gly Asn Leu Asp Ser Pro Glu Gly Gly Phe
 115 120 125
 Asp Ala Ile Leu Gln Ala Ala Leu Cys Gln Glu Gln Ile Gly Trp Arg
 130 135 140
 Asn Val Ser Arg Leu Leu Val Phe Thr Ser Asp Asp Thr Phe His Thr
 145 150 155 160
 Ala Gly Asp Gly Lys Leu Gly Gly Ile Phe Met Pro Ser Asp Gly Ser
 165 170 175
 Cys His Leu Asp Ser Asn Gly Leu Tyr Ser Arg Ser Thr Glu Phe Asp
 180 185 190
 Tyr Pro Ser Val Gly Gln Val Ala Gln Ala Leu Ser Ala Ala Asn Ile
 195 200 205
 Gln Pro Ile Phe Ala Val Thr Ser Ala Ala Leu Pro Val Tyr Gln Glu
 210 215 220
 Leu Ser Lys Leu Ile Pro Lys Ser Ala Val Gly Glu Leu Ser Glu Asp
 225 230 235 240
 Ser Ser Asn Val Val Gln Leu Ile Met Asp Ala Tyr Asn
 245 250

<210> 53
 <211> 255
 <212> PRT
 <213> Homo sapiens

<400> 53

Gly Gly Ala Gln Thr Leu Gln Val His Val Arg Gln Thr Glu Asp Tyr
 1 5 10 15
 Pro Val Asp Leu Tyr Tyr Leu Met Asp Leu Ser Ala Ser Met Asp Asp
 20 25 30
 Asp Leu Asn Thr Ile Lys Glu Leu Gly Ser Gly Leu Ser Lys Glu Met
 35 40 45
 Ser Lys Leu Thr Ser Asn Phe Arg Leu Gly Phe Gly Ser Phe Val Glu
 50 55 60
 Lys Pro Val Ser Pro Phe Val Lys Thr Thr Pro Glu Glu Ile Ala Asn
 65 70 75 80
 Pro Cys Ser Ser Ile Pro Tyr Phe Cys Leu Pro Thr Phe Gly Phe Lys
 85 90 95
 His Ile Leu Pro Leu Thr Asn Asp Ala Glu Arg Phe Asn Glu Ile Val
 100 105 110
 Lys Asn Gln Lys Ile Ser Ala Asn Ile Asp Thr Pro Glu Gly Gly Phe
 115 120 125
 Asp Ala Ile Met Gln Ala Ala Val Cys Lys Glu Lys Ile Gly Trp Trp
 130 135 140
 Arg Asn Asp Ser Leu His Leu Leu Val Phe Val Ser Asp Ala Asp Ser
 145 150 155 160
 His Phe Gly Met Asp Ser Lys Leu Ala Gly Ile Val Ile Pro Asn Asp
 165 170 175
 Gly Leu Cys His Leu Asp Ser Lys Asn Glu Tyr Ser Met Ser Thr Val
 180 185 190
 Leu Glu Tyr Pro Thr Ile Gly Gly Leu Ile Asp Lys Leu Val Gln Asn
 195 200 205
 Asn Val Leu Leu Ile Phe Ala Val Thr Gln Glu Gln Val His Leu Tyr
 210 215 220
 Glu Asn Tyr Ala Lys Leu Ile Pro Gly Ala Thr Val Gly Leu Leu Gln
 225 230 235 240
 Lys Asp Ser Gly Asn Ile Leu Gln Leu Ile Ile Ser Ala Tyr Glu
 245 250 255

<210> 54

<211> 256

<212> PRT

<213> Homo sapiens

<400> 54

Gly Asp Lys Thr Thr Phe Gln Leu Gln Val Arg Gln Val Glu Asp Tyr
 1 5 10 15
 Pro Val Asp Leu Tyr Tyr Leu Met Asp Leu Ser Leu Ser Met Lys Asp
 20 25 30
 Asp Leu Asp Asn Ile Arg Ser Leu Gly Thr Lys Leu Ala Glu Glu Met
 35 40 45
 Arg Lys Leu Thr Ser Asn Phe Arg Leu Gly Phe Gly Ser Phe Val Asp
 50 55 60
 Lys Asp Ile Ser Pro Phe Ser Tyr Thr Ala Pro Arg Tyr Gln Thr Asn
 65 70 75 80
 Pro Cys Ile Gly Tyr Lys Leu Phe Pro Asn Cys Val Pro Ser Phe Gly
 85 90 95
 Phe Arg His Leu Leu Pro Leu Thr Asp Arg Val Asp Ser Phe Asn Glu
 100 105 110
 Glu Val Arg Lys Gln Arg Val Ser Arg Asn Arg Asp Ala Pro Glu Gly
 115 120 125
 Gly Phe Asp Ala Val Leu Gln Ala Ala Val Cys Lys Glu Lys Ile Gly
 130 135 140

Trp Arg Lys Asp Ala Leu His Leu Leu Val Phe Thr Thr Asp Asp Val
 145 150 155 160
 Pro His Ile Ala Leu Asp Gly Lys Leu Gly Gly Leu Val Gln Pro His
 165 170 175
 Asp Gly Gln Cys His Leu Asn Glu Ala Asn Glu Tyr Thr Ala Ser Asn
 180 185 190
 Gln Met Asp Tyr Pro Ser Leu Ala Leu Leu Gly Glu Lys Leu Ala Glu
 195 200 205
 Asn Asn Ile Asn Leu Ile Phe Ala Val Thr Lys Asn His Tyr Met Leu
 210 215 220
 Tyr Lys Asn Phe Thr Ala Leu Ile Pro Gly Thr Thr Val Glu Ile Leu
 225 230 235 240
 Asp Gly Asp Ser Lys Asn Ile Ile Gln Leu Ile Ile Asn Ala Tyr Asn
 245 250 255

<210> 55

<211> 252

<212> PRT

<213> Homo sapiens

<400> 55

Gly Glu Glu Arg His Phe Glu Leu Glu Val Phe Glu Pro Leu Glu Ser
 1 5 10 15
 Pro Val Asp Leu Tyr Ile Leu Met Asp Phe Ser Asn Ser Met Ser Asp
 20 25 30
 Asp Leu Asp Asn Leu Lys Lys Met Gly Gln Asn Leu Ala Arg Val Leu
 35 40 45
 Ser Gln Leu Thr Ser Asp Tyr Thr Ile Gly Phe Gly Lys Phe Val Asp
 50 55 60
 Lys Val Ser Val Pro Gln Thr Asp Met Arg Pro Glu Lys Leu Lys Glu
 65 70 75 80
 Pro Trp Pro Asn Ser Asp Pro Pro Phe Ser Phe Lys Asn Val Ile Ser
 85 90 95
 Leu Thr Glu Asp Val Asp Glu Phe Arg Asn Lys Leu Gln Gly Glu Arg
 100 105 110
 Ile Ser Gly Asn Leu Asp Ala Pro Glu Gly Gly Phe Asp Ala Ile Leu
 115 120 125
 Gln Thr Ala Val Cys Thr Arg Asp Ile Gly Trp Arg Pro Asp Ser Thr
 130 135 140
 His Leu Leu Val Phe Ser Thr Glu Ser Ala Phe His Tyr Glu Ala Asp
 145 150 155 160
 Gly Ala Asn Val Leu Ala Gly Ile Met Ser Arg Asn Asp Glu Arg Cys
 165 170 175
 His Leu Asp Thr Thr Gly Thr Tyr Thr Gln Tyr Arg Thr Gln Asp Tyr
 180 185 190
 Pro Ser Val Pro Thr Leu Val Arg Leu Leu Ala Lys His Asn Ile Ile
 195 200 205
 Pro Ile Phe Ala Val Thr Asn Tyr Ser Tyr Ser Tyr Tyr Glu Lys Leu
 210 215 220
 His Thr Tyr Phe Pro Val Ser Ser Leu Gly Val Leu Gln Glu Asp Ser
 225 230 235 240
 Ser Asn Ile Val Glu Leu Leu Glu Glu Ala Phe Asn
 245 250

<210> 56

<211> 255

<212> PRT

<213> Homo sapiens

<400> 56

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Asp Asp Ser Lys Asn Phe Ser Ile Gln Val Arg Gln Val Glu Asp Tyr
 1          5          10          15
Pro Val Asp Ile Tyr Tyr Leu Met Asp Leu Ser Tyr Ser Met Lys Asp
          20          25          30
Asp Leu Trp Ser Ile Gln Asn Leu Gly Thr Lys Leu Ala Thr Gln Met
          35          40          45
Arg Lys Leu Thr Ser Asn Leu Arg Ile Gly Phe Gly Ala Phe Val Asp
          50          55          60
Lys Pro Val Ser Pro Tyr Met Tyr Ile Ser Pro Pro Glu Ala Leu Glu
          65          70          75          80
Asn Pro Cys Tyr Asp Met Lys Thr Thr Cys Leu Pro Met Phe Gly Tyr
          85          90          95
Lys His Val Leu Thr Leu Thr Asp Gln Val Thr Arg Phe Asn Glu Glu
          100          105          110
Val Lys Lys Gln Ser Val Ser Arg Asn Arg Asp Ala Pro Glu Gly Gly
          115          120          125
Phe Asp Ala Ile Met Gln Ala Thr Val Cys Asp Glu Lys Ile Gly Trp
          130          135          140
Arg Asn Asp Ala Ser His Leu Leu Val Phe Thr Thr Asp Ala Lys Thr
          145          150          155          160
His Ile Ala Leu Asp Gly Arg Leu Ala Gly Ile Val Gln Pro Asn Asp
          165          170          175
Gly Gln Cys His Val Gly Ser Asp Asn His Tyr Ser Ala Ser Thr Thr
          180          185          190
Met Asp Tyr Pro Ser Leu Gly Leu Met Thr Glu Lys Leu Ser Gln Lys
          195          200          205
Asn Ile Asn Leu Ile Phe Ala Val Thr Glu Asn Val Val Asn Leu Tyr
          210          215          220
Gln Asn Tyr Ser Glu Leu Ile Pro Gly Thr Thr Val Gly Val Leu Ser
          225          230          235          240
Met Asp Ser Ser Asn Val Leu Gln Leu Ile Val Asp Ala Tyr Gly
          245          250          255

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<210> 57

<211> 252

<212> PRT

<213> Homo sapiens

<400> 57

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Gly Gln Ala Ala Ala Phe Asn Val Thr Phe Arg Arg Ala Lys Gly Tyr
 1          5          10          15
Pro Ile Asp Leu Tyr Tyr Leu Met Asp Leu Ser Tyr Ser Met Leu Asp
          20          25          30
Asp Leu Arg Asn Val Lys Lys Leu Gly Gly Asp Leu Leu Arg Ala Leu
          35          40          45
Asn Glu Ile Thr Glu Ser Gly Arg Ile Gly Phe Gly Ser Phe Val Asp
          50          55          60
Lys Thr Val Leu Pro Phe Val Asn Thr His Pro Asp Lys Leu Arg Asn
          65          70          75          80
Pro Cys Pro Asn Lys Glu Lys Glu Cys Gln Pro Pro Phe Ala Phe Arg
          85          90          95
His Val Leu Lys Leu Thr Asn Asn Ser Asn Gln Phe Gln Thr Glu Val
          100          105          110
Gly Lys Gln Leu Ile Ser Gly Asn Leu Asp Ala Pro Glu Gly Gly Leu

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115	120	125
Asp Ala Met Met Gln Val	Ala Ala Cys Pro Glu Glu Ile Gly Trp Arg	
130	135	140
Asn Val Thr Arg Leu Leu Val	Phe Ala Thr Asp Asp Gly Phe His Phe	
145	150	155
Ala Gly Asp Gly Lys Leu Gly	Ala Ile Leu Thr Pro Asn Asp Gly Arg	160
165	170	175
Cys His Leu Glu Asp Asn Leu Tyr	Lys Arg Ser Asn Glu Phe Asp Tyr	
180	185	190
Pro Ser Val Gly Gln Leu Ala His	Lys Leu Ala Glu Asn Asn Ile Gln	
195	200	205
Pro Ile Phe Ala Val Thr Ser	Arg Met Val Lys Thr Tyr Glu Lys Leu	
210	215	220
Thr Glu Ile Ile Pro Lys Ser	Ala Val Gly Glu Leu Ser Glu Asp Ser	240
225	230	235
Ser Asn Val Val His Leu Ile	Lys Asn Ala Tyr Asn	
245	250	

<210> 58

<211> 251

<212> PRT

<213> Homo sapiens

<400> 58

Gly Glu Pro Gln Thr Phe Thr	Leu Lys Phe Lys Arg Ala Glu Asp Tyr	
1	5	10
Pro Ile Asp Leu Tyr Tyr Leu	Met Asp Leu Ser Tyr Ser Met Lys Asp	15
20	25	30
Asp Leu Glu Asn Val Lys Ser	Leu Gly Thr Asp Leu Met Asn Glu Met	
35	40	45
Arg Arg Ile Thr Ser Asp Phe	Arg Ile Gly Phe Gly Ser Phe Val Glu	
50	55	60
Lys Thr Val Met Pro Tyr Ile	Ser Thr Thr Pro Ala Lys Leu Arg Asn	80
65	70	75
Pro Cys Thr Ser Glu Gln Asn	Cys Thr Thr Pro Phe Ser Tyr Lys Asn	95
85	90	95
Val Leu Ser Leu Thr Asn Lys	Gly Glu Val Phe Asn Glu Leu Val Gly	
100	105	110
Lys Gln Arg Ile Ser Gly Asn	Leu Asp Ser Pro Glu Gly Gly Phe Asp	
115	120	125
Ala Ile Met Gln Val Ala Val	Cys Gly Ser Leu Ile Gly Trp Arg Asn	
130	135	140
Val Thr Arg Leu Leu Val Phe	Ser Thr Asp Ala Gly Phe His Phe Ala	
145	150	155
Gly Asp Gly Lys Leu Gly Gly	Ile Val Leu Pro Asn Asp Gly Gln Cys	160
165	170	175
His Leu Glu Asn Asn Met Tyr	Thr Met Ser His Tyr Tyr Asp Tyr Pro	
180	185	190
Ser Ile Ala His Leu Val Gln	Lys Leu Ser Glu Asn Asn Ile Gln Thr	
195	200	205
Ile Phe Ala Val Thr Glu Glu	Phe Gln Pro Val Tyr Lys Glu Leu Lys	
210	215	220
Asn Leu Ile Pro Lys Ser Ala	Val Gly Thr Leu Ser Ala Asn Ser Ser	240
225	230	235
Asn Val Ile Gln Leu Ile Ile	Asp Ala Tyr Asn	
245	250	

<210> 59
 <211> 187
 <212> PRT
 <213> Homo sapiens

<400> 59

Cys	Pro	Arg	Gln	Glu	Gln	Asp	Ile	Val	Phe	Leu	Ile	Asp	Gly	Ser	Gly	1	5	10	15
Ser	Ile	Ser	Ser	Arg	Asn	Phe	Ala	Thr	Met	Met	Asn	Phe	Val	Arg	Ala	20	25	30	
Val	Ile	Ser	Gln	Phe	Gln	Arg	Pro	Ser	Thr	Gln	Phe	Ser	Leu	Met	Gln	35	40	45	
Phe	Ser	Asn	Lys	Phe	Gln	Thr	His	Phe	Thr	Phe	Glu	Glu	Phe	Arg	Arg	50	55	60	
Thr	Ser	Asn	Pro	Leu	Ser	Leu	Leu	Ala	Ser	Val	His	Gln	Leu	Gln	Gly	65	70	75	80
Phe	Thr	Tyr	Thr	Ala	Thr	Ala	Ile	Gln	Asn	Val	Val	His	Arg	Leu	Phe	85	90	95	
His	Ala	Ser	Tyr	Gly	Ala	Arg	Arg	Asp	Ala	Thr	Lys	Ile	Leu	Ile	Val	100	105	110	
Ile	Thr	Asp	Gly	Lys	Lys	Glu	Gly	Asp	Ser	Leu	Asp	Tyr	Lys	Asp	Val	115	120	125	
Ile	Pro	Met	Ala	Asp	Ala	Ala	Gly	Ile	Ile	Arg	Tyr	Ala	Ile	Gly	Val	130	135	140	
Gly	Leu	Ala	Phe	Gln	Asn	Arg	Asn	Ser	Trp	Lys	Glu	Leu	Asn	Asp	Ile	145	150	155	160
Ala	Ser	Lys	Pro	Ser	Gln	Glu	His	Ile	Phe	Lys	Val	Glu	Asp	Phe	Asp	165	170	175	
Ala	Leu	Lys	Asp	Ile	Gln	Asn	Gln	Leu	Lys	Glu						180	185		

<210> 60
 <211> 181
 <212> PRT
 <213> Homo sapiens

<400> 60

Cys	Ile	Lys	Gly	Asn	Val	Asp	Leu	Val	Phe	Leu	Phe	Asp	Gly	Ser	Met	1	5	10	15
Ser	Leu	Gln	Pro	Asp	Glu	Phe	Gln	Lys	Ile	Leu	Asp	Phe	Met	Lys	Asp	20	25	30	
Val	Met	Lys	Lys	Leu	Ser	Asn	Thr	Ser	Tyr	Gln	Phe	Ala	Ala	Val	Gln	35	40	45	
Phe	Ser	Thr	Ser	Tyr	Lys	Thr	Glu	Phe	Asp	Phe	Ser	Asp	Tyr	Val	Lys	50	55	60	
Trp	Lys	Asp	Pro	Asp	Ala	Leu	Leu	Lys	His	Val	Lys	His	Met	Leu	Leu	65	70	75	80
Leu	Thr	Asn	Thr	Phe	Gly	Ala	Ile	Asn	Tyr	Val	Ala	Thr	Glu	Val	Phe	85	90	95	
Arg	Glu	Glu	Leu	Gly	Ala	Arg	Pro	Asp	Ala	Thr	Lys	Val	Leu	Ile	Ile	100	105	110	
Ile	Thr	Asp	Gly	Glu	Ala	Thr	Asp	Ser	Gly	Asn	Ile	Asp	Ala	Ala	Lys	115	120	125	
Asp	Ile	Ile	Arg	Tyr	Ile	Ile	Gly	Ile	Gly	Lys	His	Phe	Gln	Thr	Lys	130	135	140	
Glu	Ser	Gln	Glu	Thr	Leu	His	Lys	Phe	Ala	Ser	Lys	Pro	Ala	Ser	Glu	145	150	155	160


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<210> 61
<211> 20
<212> PRT
<213> Homo sapiens
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<210> 62
<211> 20
<212> PRT
<213> Homo sapiens
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<210> 63
<211> -20
<212> PRT
<213> Homo sapiens
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<210> 64
<211> 20
<212> PRT
<213> Homo sapiens
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<210> 65
<211> 20
<212> PRT
<213> Homo sapiens
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Ala Thr Gly Ile
20

<210> 66
<211> 20
<212> PRT
<213> Homo sapiens

<400> 66
Thr Gly Ile Arg Lys Val Val Arg Glu Leu Phe Asn Ile Thr Asn Gly
1 5 10 15
Ala Arg Lys Asn
20

<210> 67
<211> 29
<212> PRT
<213> Homo sapiens

<400> 67
Lys Val Val Arg Glu Leu Ser Asn Ile Thr Asn Gly Ala Arg Lys Asn
1 5 10 15
Ala Ser Lys Ile Leu Val Val Ile Thr Asp Gly Glu Lys
20 25

<210> 68
<211> 17
<212> PRT
<213> Homo sapiens

<400> 68
Asp Arg Glu Gly Val Ile Arg Tyr Val Ile Gly Val Gly Asp Ala Phe
1 5 10 15
Arg

<210> 69
<211> 20
<212> PRT
<213> Homo sapiens

<400> 69
His Val Phe Gln Val Asn Asn Phe Glu Ala Leu Lys Thr Ile Gln Asn
1 5 10 15
Gln Leu Arg Glu
20

<210> 70
<211> 14
<212> PRT
<213> Homo sapiens

<400> 70
Asn Ala Phe Lys Ile Leu Val Val Ile Thr Asp Gly Glu Lys
1 5 10

<210> 71

<211> 7
<212> PRT
<213> Homo sapiens

<400> 71
Asn Ala Phe Lys Ile Leu Val
1 5

<210> 72
<211> 7
<212> PRT
<213> Homo sapiens

<400> 72
Val Ile Thr Asp Gly Glu Lys
1 5